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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/024,512

12/21/2001

Shigeo Kittaka

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7590

11/05/2003

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EXAMINER

ULLAH, AKM E

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 11/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/024,512

Applicant(s)

KITAKA ET AL.

Examiner

Akm Enayet Ullah

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-3 and 8-12 is/are rejected.
- 7) ☒ Claim(s) 4-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Detailed Action***

1. Applicant cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Status of the Application***

2. Claims 1- 12 are pending in this application.
3. If applicant is aware of any prior art or any other co- pending application not already of record, he/she is reminded of his/her duty under 37 CFR 1.56 to disclose the same.

***Drawings***

4. This application has been filed on November 05, 2002 with formal drawings.
- 5.

***Claimed Foreign Priority--- Papers Filed***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC 102 Rejection***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2874

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-3 and 12 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by Japanese Patent 60-91316 or Scobey et al (USPNO. 5,859,717) or Hardy (USPNO. 3,355,674 or Snitzer (USPNO. 3,395,331).

All the above mentioned references disclose a single mode optical fiber as an information transmission optical fiber, at least one index optical fiber having an outer diameter equal to the single mode optical fiber and having a lens function where the gradient index optical fiber being joined with optical fiber.

For details see, see figure 1 of the Japanese reference, see figure 8 of Hardy reference, and see figures 2 and 7 of Snitzer reference.

For Scobey et al, see columns 7-12 of the reference.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1- 3 and 8 -10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson et al (USPNO. 6,445,939 B1).

8. Swanson et al disclose an optical imaging probe comprising a single mode fiber optically coupled to a lens, which has substantially the same diameter as optical fiber. A lens is in communication with a beam director and also it includes a graded index lens. The optical beam is transmitting to the graded index optical fiber via the single optical fiber.

Regarding claims 8 and 9, wherein the length of gradient index optical fiber is in a range of from  $0.05p$  to  $1p$  and/or  $0.0.5p$  to  $0.5p$  in which  $P$  is a periodic length of said gradient index optical fiber would have been obvious to one of ordinary skill in the art at the time the invention was made to use such periodic length since column 20, last paragraph of Swanson et al mentioned that a working distance greater than 1 mm from an end of the graded index optical fiber and also, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 10, wherein the single mode optical and the graded index optical fiber are joined and fixed to each other in a sleeve having an inner diameter substantially equal to outer diameter of two optical fibers are mentioned in column 19, last paragraph and column 20, first paragraph of the reference. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made use such teaching of Swanson et al for the instant invention's coupling and joining between the single mode optical fiber and the graded index optical fiber.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scobey et al (USPNO. 5,859,717).

10. As per claim 11, wherein a single mode optical fiber and a graded index mode optical fiber are joined and fixed to each other in a groove which is formed in a planar substrate and which is V-shaped in section is very elementary teaching in this optical coupling art as is shown by Scobey et al in figure 2 and columns 7-8. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use such teaching's of Scobey et al (USPNO. 5,859,717) for the coupling function in a planar substrate and in V-shaped section.

11.

#### ***Objection to Claims, Allowable Subject Matter***

Claim 4-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Conclusion**

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akm Enayet Ullah whose telephone number is 703-308-4885. The examiner can normally be reached on Monday through Wednesday 5:30 a.m. – 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 703-3084819. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7721 for regular communications and 703-308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Akm Enayet Ullah  
Primary Examiner  
Art Unit 2874

AUllah  
October 23,2003